



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,084	01/28/2004	Ashwin J. Mathew	03226/516001	4594
32615	7590	07/09/2009	EXAMINER	
OSHA LIANG L.L.P./SUN TWO HOUSTON CENTER 909 FANNIN, SUITE 3500 HOUSTON, TX 77010			RAYYAN, SUSAN F	
		ART UNIT	PAPER NUMBER	
		2167		
		NOTIFICATION DATE		DELIVERY MODE
		07/09/2009		ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@oshaliang.com
lord@oshaliang.com
hathaway@oshaliang.com

Office Action Summary	Application No.	Applicant(s)
	10/767,084	MATHEW ET AL.
	Examiner SUSAN FOSTER RAYYAN	Art Unit 2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 28 January 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-39 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-39 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1448)
 Paper No(s)/Mail Date 11/29/06, 1/25/07, 9/17/07, 6/19/08

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

1. Claims 1-39 are currently pending.

Specification

2. The disclosure is objected to because of the following informalities: In page 1, lines 6, line 13, line 19, and page 2, line 1, line 8 and line 15, replace the reference to US Patent Application Number "xx/xxx,xxx" with the correct application numbers.

Appropriate correction is required.

Information Disclosure Statement

3. The information disclosure statements (IDS) submitted on 11/29/2006, 1/25/2007, 9/7/2007, 6/19/2008 were filed before First Office Action. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6,9-11, 14-19, 22-24,27-32, 35-37 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,609,123 issued to Henk Cazemier et al ("Cazemier").

As per claim 1 Cazemier anticipates:

a unified entity-relationship system comprising a plurality of entities, said entities each comprising a plurality of attributes (column 2, lines 43-51, as In Entity Relationship models data is described as entities, attributes and relationships) ;

at least one subsumed entity-relationship system coupled to said unified entity-relationship system, wherein said entities of said unified entity-relationship system are mapped to one another and to entities and attributes of entities of said subsumed entity-relationship system (column 3, lines 48-60, as a metadata model containing model objects that represent sources and column 21, lines 60-76, mapping and transformation));

a join engine peer coupled to said unified entity-relationship system for performing joins and splits to form related entities according to a join model (column 17, lines 47-55, as the table extracts construction transformation 112c then attempts to determine a relationship between data access layer tables 122 based on the extended record identifiers. These relationships are represented in the metadata model as join relationships); and

Art Unit: 2167

a global object model coupled to said join engine peer, said global object model comprising said mapped relationships and said join model specifying transformations and queries required for forming an entity from a set of related entities (column 3, lines 48-60, as a query engine for formulating a query to obtain data from one or more sources, a metadata model containing model objects that represent sources. column 6, lines 51-51, transformations complete the metadata model.).

As per claim 2, same as claim arguments above and Cazemier anticipates: wherein said entities are mapped by automatically importing schemas of databases for said entities into said global object model and correlating relationships between related entities (column 8, lines 9-22, as data access layer contains a part of the model objects and may include schemas).

As per claim 3, same as claim arguments above and Cazemier anticipates: wherein the attributes of an entity of said subsumed entity-relationship system are mapped to corresponding attributes of entities of said unified entity-relationship system (see column 8, lines 22-34 and column 11, lines 42-46, as transformations construct portions of the common metadata model based on objects contained in another portion of the metadata model and column 21, lines 60-76, mapping and transformation).

As per claim 4, same as claim arguments above and Cazemier anticipates: wherein a subset of the attributes of an entity of said subsumed entity-relationship system are mapped to corresponding attributes of entities of said unified entity-relationship system (see column 8, lines 22-34 and column 11, lines 42-46, as transformations construct portions of the common metadata model based on objects contained in another portion of the metadata model and column 21, lines 60-76, mapping and transformation).

As per claim 5, same as claim arguments above and Cazemier anticipates: wherein a single entity in said unified entity-relationship system is mapped a plurality of times to a corresponding individual entity within a plurality of subsumed entity-relationship systems (see column 8, lines 22-34 and column 11, lines 42-46, as transformations construct portions of the common metadata model based on objects contained in another portion of the metadata model and column 21, lines 60-76, mapping and transformation).

As per claim 6, same as claim arguments above and Cazemier anticipates: wherein a single entity within said unified entity-relationship system is mapped to a plurality of entities within a single subsumed entity-relationship system, said unified entity-relationship system being mapped to a different set of attributes for each of said plurality of entities(see column 8, lines 22-34 and column 11,lines

Art Unit: 2167

42-46, as transformations construct portions of the common metadata model based on objects contained in another portion of the metadata model and column 21, lines 60-76, mapping and transformation).

As per claim 9, same as claim arguments above and Cazemier anticipates: wherein said schemas are hierarchical (column 2., lines 23-26, hierarchical model).

As per claim 10, same as claim arguments above and Cazemier anticipates: wherein a schema is extended from a parent class entity to a child class entity based on user-defined parent/ child inheritance relationships (column 9, lines 51-60, an entity may inherit information from another entity using a technique called subtyping).

As per claim 11, same as claim arguments above and Cazemier anticipates: wherein said child class entity inherits relationships from said parent class entity (column 9, lines 51-60, an entity may inherit information from another entity using a technique called subtyping).

As per claim 14 Cazemier anticipates:

a) mapping entities within a unified entity-relationship system to entities within subsumed entity-relationship systems(column 2, lines 43-51, as In Entity Relationship models data is described as entities, attributes and relationships and column 21, lines 60-76, mapping and transformation)) ;

Art Unit: 2167

b) specifying relationships between mapped entities to generate a unified entity-relationship model(column 17, lines 47-55, as the table extracts construction transformation 112c then attempts to determine a relationship between data access layer tables 122 based on the extended record identifiers.

These relationships are represented in the metadata model as join relationships); and

c) using said global attribute object model in conjunction with a join model for enforcing data consistency within said network (column 3, lines 48-60, as a query engine for formulating a query to obtain data from one or more sources, a metadata model containing model objects that represent sources. column 6, lines 51-51, transformations complete the metadata model.).

As per claim 15, same as claim arguments above and Cazemier anticipates: wherein said entities are mapped by importing schemas of databases for said entities into said global attribute object model and correlating relationships between related entities(column 8, lines 9-22, as data access layer contains a part of the model objects and may include schemas, tables, data access joins).

As per claim 16, same as claim arguments above and Cazemier anticipates: wherein all of the attributes of an entity of said subsumed entity-relationship system are mapped to corresponding attributes of entities of said unified entity-relationship system (see column 8, lines 22-34 and column 11, lines 42-46, as transformations construct portions of the common metadata model based on

Art Unit: 2167

objects contained in another portion of the metadata model and column 21, lines 60-76, mapping and transformation).

As per claim 17, same as claim arguments above and Cazemier anticipates: wherein a subset of the attributes of an entity of said subsumed entity-relationship system are mapped to corresponding attributes of entities of said unified entity-relationship system (see column 8, lines 22-34 and column 11, lines 42-46, as transformations construct portions of the common metadata model based on objects contained in another portion of the metadata model and column 21, lines 60-76, mapping and transformation).

As per claim 18, same as claim arguments above and Cazemier anticipates: wherein a single entity in said unified entity-relationship system is mapped a plurality of times to a corresponding individual entity within a plurality of subsumed entity-relationship systems (see column 8, lines 22-34 and column 11, lines 42-46, as transformations construct portions of the common metadata model based on objects contained in another portion of the metadata model and column 21, lines 60-76, mapping and transformation).

As per claim 19, same as claim arguments above and Cazemier anticipates: wherein a single entity within said unified entity-relationship system is mapped to a plurality of entities within a single subsumed entity-relationship system, said unified entity-relationship system being mapped to a different set of attributes for

Art Unit: 2167

each of said plurality of entities(see column 8, lines 22-34 and column 11,lines 42-46, as transformations construct portions of the common metadata model based on objects contained in another portion of the metadata model and column 21, lines 60-76, mapping and transformation).

As per claim 22, same as claim arguments above and Cazemier anticipates: wherein said schemas are hierarchical (column 2. lines 23-26, hierarchical model).

As per claim 23, same as claim arguments above and Cazemier anticipates: wherein a schema is extended from a parent class entity to a child class entity based on user-defined parent- child inheritance relationships (column 9, lines 51-60, an entity may inherit information from another entity using a technique called subtyping).

As per claim 24, same as claim arguments above and Cazemier anticipates: wherein said child class entity inherits relationships from said parent class entity (column 9, lines 51-60, an entity may inherit information from another entity using a technique called subtyping).

Claims 27- 32, 35-37 are rejected based on the same rational as claims 14-19, 22-24 above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

Art Unit: 2167

be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-13, 25-26, 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,609,123 issued to Henk Cazemier et al ("Cazemier") and US 5,787,415 issued to Paul Jacobson et al ("Jacobson").

As per claim 12, same as claim arguments above and Cazemier does not explicitly teach wherein related entities are marked for cascading deletes. Jacobson does teach cascading deletes (at column 9, lines 65, as cascading deletes). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Cazemier with cascading deletes for referential integrity as described by Jacobson at column 10, line 1.

As per claim 13, same as claim arguments above and Jacobson teaches: wherein a deletion of an entity results in the automatic deletion of related entities that are marked for cascading deletes (at column 9, lines 65, as cascading deletes).

As per claim 25, 38 same as claim arguments above and Cazemier does not explicitly teach wherein related entities are marked for cascading deletes. Jacobson does teach cascading deletes (at column 9, lines 65, as cascading deletes). It would have been obvious to a person of ordinary skill in the art at the

Art Unit: 2167

time the invention was made to modify Cazemier with cascading deletes for referential integrity as described by Jacobson at column 10, line 1.

As per claim 26, 39 same as claim arguments above and Jacobson teaches: wherein a deletion of an entity results in the automatic deletion of related entities that are marked for cascading deletes (at column 9, lines 65, as cascading deletes).

Claims 7-8, 20-21, 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,609,123 issued to Henk Cazemier et al ("Cazemier") and US 6,842,904 issued to Bradley J. Bartz et al ("Bartz").

As per claim 7, same as claim arguments above and Cazemier does not explicitly teach wherein said global object model is maintained in a versioned store. Bartz does teach this limitation (at column 1, lines 20-21, as some databases are known as versioned stores). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Cazemier with a versioned store to allow for storage and tracking of multiple versions of files or documents as they evolve over time as described by Bartz at column 1, lines 13-16.

As per claim 8, same as claim arguments above and Bartz teaches:

Art Unit: 2167

wherein join engines throughout said network maintain a copy of said object model obtained from said versioned store(at column 1, lines 20-21, as some databases are known as versioned stores , stores versions of documents). Bartz does teach this limitation (at column 1, lines 20-21, as some databases are known as versioned stores, stores versions of documents). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Cazemier with a versioned store to allow for storage and tracking of multiple versions of files or documents as they evolve over time as described by Bartz at column 1, lines 13-16.

As per claim 20, 33 same as claim arguments above and Cazemier does not explicitly teach wherein said global attribute object model is maintained in a versioned store for allowing users to deploy a specific version compatible with their system configuration.

As per claim 21, 34 same as claim arguments above and maintaining a copy of said global attribute object model within a plurality of join engine peers(at column 1, lines 20-21, as some databases are known as versioned stores , stores versions of documents).

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUSAN FOSTER RAYYAN whose telephone

Art Unit: 2167

number is (571)272-1675. The examiner can normally be reached on M-F, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SUSAN FOSTER RAYYAN/

Examiner, Art Unit 2167

July 5, 2009

/John R. Cottingham/

Supervisory Patent Examiner, Art Unit 2167